REMARKS

In view of the following remarks responsive to the Final Office Action in this application dated April 23, 2004, Applicant respectfully requests favorable reconsideration of this application.

All of the claims presently stand rejected as obvious over prior art. In each of the rejections, Berger is the primary reference and Salinger is the secondary reference. In this, the third and final Office Action, the area of dispute between the Office and Applicant is the same as in the two previous Office Actions and basically concerns the issue of whether or not Berger discloses dynamically resizing virtual pipelines based on real-time network traffic parameters, as sorted by Office) or pertains to a one-time determination of the initial network bandwidth allocation as part of the initial designing of the network (as asserted by Applicant). Over the course of the two previous Office Actions in this case, the Office and Applicant have cited to each other various portions of Berger as supporting their respective positions. Often, the Office and Applicant have cited the same portions.

In the latest Office Action, the Office has continued the dialogue, specifically addressing Applicant's latest contentions responsive to the previous Office Action and, particularly, citing sections of Berger that allegedly rebut Applicant assertions. At least some of the sections cited the Office cites the same sections in the previous Office Actions.

Applicant will hereinafter address each of the Office's individual responses blow.

In section 1 of the Office Action, the Office asserted that Applicant's arguments with respect to independent claims 1, 17, and 29 that Berger has nothing to do with dynamically resizing virtual pipelines while protecting network performance criteria, the Office asserted that:

> Berger discloses taking measurements in a network and using these measurements to perform dimensioning. For instance, Berger discloses taking measurements at a node and on a link in order to estimate the number of active connections and the number of potential connections sharing a link (col. 13, lines 6-12). Berger then uses these estimates in order to perform dimensioning (col. 11, lines 25-47 and col. 12, lines 66- col. 13, line 12). Berger also discloses determining the number of active connections on the network link and then using this number for dimensioning of the link and for ensuring that the performance objectives are satisfied (col. 11, line 62 - col. 12, line 39). Finally, Berger explicitly recognizes that the assumptions used for dimensioning the network will be different from the actual values once the network is placed into service (col. 9, lines 30-45). Given these disclosures in Berger, the Office maintains that Berger discloses, or at the very least suggests, resizing virtual pipelines and protecting network performance criteria.

Applicant respectfully disagrees. The Examiner's reliance on col. 13, lines 6-12 as disclosing "taking measurements at a node and on a link in order to estimate the number of active connections and the number of potential connections sharing a link" is misplaced. Particularly, col. 13, lines 6-12 read:

> From measurements at a network node, say the network node at Chicago in Fig. 3, and the packet flows exiting the node on a given link, say the link between Chicago and New York, 302, one can estimate the average number of active connections, E $[Q_1]$, as well as the number of potential connections sharing the link, N. Then, from Eq. (14), one can determine λf and thus u. (Col 13, lines 6-12).

Applicant notes that this portion of Berger is in the middle of a paragraph. The beginning of that paragraph appears in column 12, line 66 through column 13, line 1 and states "From measurements on existing networks and using the CQN model, one can estimate the value of λf, which equals an estimate of u. Thus, the "measurements" referred to in column 13, lines 6- 12, are measurements from another, pre-existing network that can be used to help estimate the traffic on the new network that is being designed. They are not measurements from the network that is being designed.

Next, the Office asserts that "Berger then uses these <u>estimates</u> in order to perform dimensioning through the lambda*f value" (underlining added), citing column 11, lines 25-

47 and column 12, lined 66 -- column 13, line 12 of Berger. The Office Action itself acknowledges that Berger uses estimates, not measurements.

Next, the Office asserts that "Berger explicitly recognizes that the assumptions used for dimensioning the network will be different from the actual values once the network is placed into service (col. 9, lines of 32-45)". Applicant does not understand the Office's point here. This argument supports Applicant's position, not the Office's. Specifically, col. 9, lines 32-34 read "After the network 300 has been dimensioned and placed into service, a network operator may exercise no connection/flow admission control (CAC), as is the case in the present best-effort-service IP-based networks." Berger is explicitly stating that the network is dimensioned before it is placed into service. This is direct, express support of Applicant's position that the network dimensioning discussed in Berger occurs before the network is placed in service and, therefore, has nothing to do with dynamic resizing of the pipelines based on real-time network traffic.

Next, in response to Applicant's argument that the connection admission control in Berger does not resize connections, the Office countered that col. 9, line 57 through column 10, line 49 of Berger disclosed that the CAC determines a maximum number of permissible connections on a link based upon the determined transfer rate for each connection, where the transfer rate for each connection can be estimated based on measurements taken at a node and on the network (col. 13, lines 6-12).

The Office's argument is erroneous on two counts. As discussed above in connection with column 13, lines at 6-12, if one reads the beginning of that paragraph, one realizes that the "measurements taken at a node" are measurements obtained from other networks. Furthermore, the reliance on columns 9 and 10 also is misplaced. Columns 9 and 10 discuss admission control based on input parameters, but do not

discuss from where those input parameters come. There is nothing in those portions of Berger that say that the input parameters are real-time traffic data measured on the network. As previously discussed in the responses to the past two Office Actions and above, they are not real-time measurements on the network. They are estimates decided upon prior to even building the network.

In section 3 of the Office Action, in search of further support of its assertions, the Office alleges, "the claims of Berger do not limit the dimensioning of the links to only occurring before the network is placed into service". According to the Office, "Berger's claimed method for the dimensioning of the links can occur at any time".

This analysis is improper. The scope of the claims of a prior art reference that happens to be a patent is utterly irrelevant to the present inquiry. Note that the Office is not asserting that the claims recite that the dimensioning occurs during operation. Rather, it is asserting that the claims do not preclude dimensioning during operation. In essence, the Office is asserting that the reference teaches something because it fails to teach the opposite. This is clearly improper.

Nevertheless, a review of the claims of Berger is useful here because; contrary to the Office's assertions, the claims actually further support that Berger is talking only about pre-operation design of the network. For instance, claim 2 depends from claim 1 and recites "The method according to claim 1 wherein the link, once dimensioned, is heavily utilized." The use of the term "once dimensioned" at least implies, if not expressly recites, that the link is "dimensioned" only once.

Having addressed the Office's responses to Applicant's arguments, let us now turn to additional sections of Berger that clearly disclose that Berger's network dimensioning occurs prior to operation. In response to the two previous Office Actions, Applicant has

already provided at least half a dozen references to the specification of Berger that support this assertion. The Office should review those arguments and portions of Berger, which will not be repeated herein. However, in addition to those portions of Berger, please also review column 10, lines 11-30, which discuss Figure 6, which is "a flowchart for the implementation of the invention for connection admission control that uses equations 7 and 8". Note that neither Figure 6 nor its discussion in column 10 contains any mention of measuring real-time parameters. In fact, column 10, lines 25-26 state "expected realistic values of the input parameters satisfy this check". In other words, the input parameters are not measured, but are based on expectations.

Accordingly, contrary to the Office's assertions, Berger does not teach the elements of "(1) identifying the first set of virtual pipelines for which traffic exceeds a predetermined threshold", "(2) for each virtual pipeline in said set, determining the pipeline size that would cause said traffic through said pipeline to not exceed such predetermined threshold", and "(3) for each pipeline in said set that can be increased in size, increasing its size to said size determined in step (2)" recited in claim 1.

These are essentially all of the limitations of claim 1. Accordingly, claim 1 clearly distinguishes over Berger.

Independent claims 17 and 29 contain essentially the same limitations as claim 1 and, therefore, distinguish over Berger for the same reasons.

All other claims in the present application depend from one of the aforementioned independent claims 1, 17, and 29. Therefore, all claims distinguish over the prior art of record for at least the same reasons.

Turning to a completely different issue, in section 4 of the Response to Arguments portion of the final Office Action, the Office addressed a completely different argument

that Applicant had made that pertained only to dependent claims 4, 20, and 35. Particularly, those claims recite that equation 2a is used when the call rate through the pipeline has been historically increasing and equation 2b is used when call rate through the pipeline has been historically decreasing. The Office rejected these claims based on the argument that Applicant admitted that this feature was known in the prior art by virtue of the statement in the Detailed Description section of the application noting that the two equations are known in the prior art. Particularly, the Office stated:

> Given that the Erlang formula, the PSA formula, and the MOL formula are well known in the art, the mathematical relationships between the equations would also be known in the art. Therefore the fact that "the PSA approximation tends to overestimate the blocking probability while the MOL approximation tends to underestimate the blocking probability" (specification, page 21, lines 15-18) would be well known in the art. Given this fact, the limitations of claims 4, 20, and 35 are obvious in view of the prior art.

The Office's assertion that since the two equations are known in the art, "the mathematical relationships between the equations would also be known in the art" and that a person of skill in the art would therefore know when to use each equation are utterly without support. Note that this is not an assertion as to whether it was obvious to combine the teachings of two references. Rather, the Office is making an assertion as to what was in the prior art. The Office is essentially attempting to take Official Notice of these allegations. However, these simply are not the type of facts that are so well known in the art as to be beyond rational dispute, as is required for such reliance. MPEP section 2144.03. Certainly, at a minimum, these allegations are subject to reasonable dispute. Applicant is and has been disputing these assertions since first asserted. Accordingly, the Office cannot simply continue to rely on its assertions. Applicant has disputed the assertion. Therefore, the Office must now provide prior art supporting the assertion or

withdraw it in accordance with MPEP section 2144.03 ("If the applicant traverses such an assertion the examiner should cite a reference in support of his or her position").

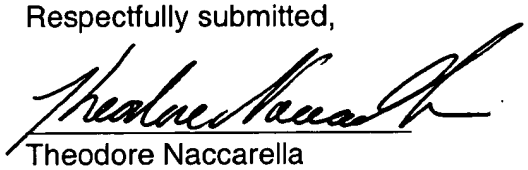
Conclusion

In view of the foregoing, the only reasonable conclusion is that, in Berger, congestion control is handled during operation of the network by call admission control, not by resizing of virtual pipelines and that all of the discussion of the sizing the links pertains to the physical design and construction of the network, not dynamic adjustment of the virtual pipelines

In addition, dependent claims 4, 20, and 35 further distinguish over the prior art for the reasons set forth above.

This application is now in condition for allowance. Applicant respectfully requests the Examiner to issue a Notice of Allowance at the earliest possible date. The Examiner is invited to contact Applicant's undersigned counsel by telephone call in order to further the prosecution of this case in any way.

Respectfully submitted,



Theodore Naccarella
Registration No. 33,023
Synnestvedt & Lechner LLP
2600 Aramark Tower
1101 Market Street
Philadelphia, PA 19107-2950
Telephone: (215) 923-4466
Facsimile: (215) 923-2189
Attorney for Applicants